

# Chemical Age of India

INDIA'S FOREMOST AND PRESTIGIOUS  
JOURNAL FOR THE CHEMICAL AND  
ALLIED PROCESS INDUSTRIES

INSIDE:

**VOLUME 31\***  
**JANUARY 1980 - DECEMBER 1980**  
**COMBINED SUBJECT/AUTHOR INDEX**

*\*Includes Special Supplements issued for Narmada Cement Co. Ltd.  
and F.A.I. Silver Jubilee International Seminar*

**Issued by the Publishers :** Technical Press Publications, Eucharistic Congress Building No. 1, 2nd floor, 5/1, Convent Street, Bombay 400 039, India.  
Cables : "Kemicalage," Telex : Chem : 011-3479,  
Phones : 231446/231156.



Free to all subscribers of *Chemical Age of India*. Extra copies available at Rs. 5/- each.

# Chemical Age of India

## COMBINED SUBJECT/AUTHOR INDEX TO VOLUME 31 (1980)

### SUBJECT INDEX

<i>Subject-Author</i>	<i>No.</i>	<i>Page</i>	<i>Subject-Author</i>	<i>No.</i>	<i>Page</i>
<b>A</b>					
Adaptation of Modern Chloralkali Technologies by an Engineering Contractor —H. Schurig	5	471	Cement Industry: A Challenge to Engineers & Planners —J. Polycarp	8	809
Advances in Catalyst and Reactor Design for Low Energy Ammonia Production —Umberto Zardi, Ettore Comandini and Attilio Passariello	12	DEV-4/1	Cement Machinery Manufacturing Industry in India—Its Present Status —S. P. Aggarwal	8	883
Advances in Caustic Concentration Plants —R. Subrahmanyam	5	557	Challenges facing the Fertilizer Industry —Dr. Easo John	12	IS-1/1
Advances in Energy Reduction in Ammonia Plants —Paul Pothen	12	ECO-1/1	Chemicals from Coal —K. S. Chari	3	277
Air Pollution Problems and its Control in the Cement Industry —R. Ramanan	8	913	Chemical Engineering Education: The Interaction of Professional Institutions & Academic Education —G. K. Roy	6	693
Air Pollution due to Sulphur Oxide Emissions from Fertilizer Plants and Its Control —R. N. Trivedi	6	681	Chlor-Alkali Industry—Worldwide —J. D. Adhia	5	419
Alcohols as Fuels and Chemical Feedstocks —Dr. Donald F. Othmer	6	655	Chlorine Liquefaction —R. P. Radhakrishnan	5	531
Alcohol Fuel and Its Problems —P. D. Tyagi	6	661	Choice of Technology in Agro-Based Industry: An Example From Sugarcane Processing —D. H. Bruinsma, C. Van den Berg and S. Bruun	3	214
An Analysis of Multi-Product Food Processing Industries for Developing Countries —C. McGreavy, P. E. Preece and C. B. Squire	3	233	Chutes for handling bulk solids —K. S. Chari	2	97
Application of Colorimetric Methods for Process and Quality Control in Cement Manufacture —S. C. Ahluwalia, S. Laxmi and A. K. Dhawan	8	909	Coal-based Ammonia —K. S. Chari	2	147
Application of Vacuum Switches in Mercury Cells —R. M. Hruda and S. C. Stefanski	5	509	Coal Gasification—Routes to Ammonia and Methanol —F. C. Brown, H. G. Hargreaves	12	TECH-3/1
Asahi Chemicals Membrane Chlor-Alkali Process —Shinsaku Ogawa	5	447	Cogeneration of Power via MHD (A New Energy Concept for the Chlor-Alkali Industry) —P. R. Rajagopalan	5	589
Assam Imbroglio (Editorial)	10	1036	Concrete Technology: The State of the Art —B. T. Unwalla	8	837
<b>B</b>					
Base Document on Chlor-Alkali Industries in India —Sivabratra Chatterjee	5	595	Comparative Study of Purification of Brine by Liquid Ion Exchange Technique/Removal of Ca and Mg as Insolubles —A. K. Rao	5	545
Biogas—Fertilizers: Prospects of Growth Extension and Promotion —A. C. Sharma	12	AS-2/1	Control of Cadmium from Discharge of Industrial Effluents to the Environment —Y. K. Agarwal and S. K. Patke	10	1071
Biogas Technology—A Renewable Energy Source for the Future —Manju Sharma and K. P. Sukumaran	12	AS-1/1	Conversion of Nigerian Cellulose (Forestry and Agricultural Wastes) to Oils and Gases—A Future Potential —E. D. Yaroson and J. O. Edewor	3	182
Bypass Systems for Preheater and Flash Calciner Kilns —Neal W. Biege and Ladd J. Parsons	8	847	Convert Effluents into Liquid Fertilizers —M. Srinivasan	12	ECO-2/1
Budget and Industry (Editorial)	5	648	Cooling Water Treatment in Chemical Plant —A. G. K. Nair	11	1133
<b>C</b>					
Castable Refractories—Typical Installations in Cement Plants —D. S. Vijayendra	8	857	CRRI's Technological Support to Cement and Allied Industries —Cement Research Institute of India, New Delhi	8	869
Cell Technology: Its Importance, Practice and Selection for Indian Caustic Soda Plants —P. S. Bhatia	5	603	<b>D</b>		
<b>D</b>					
Design of Co-current Moving Bed Gasifiers Fuelled by Biomass, The —Michiel J. Groeneweld, W. P. M. van Swaaij	3	171	Design Concept for Caustic-Chlorine Plant for a Developing Economy —N. R. Nandi, N. N. Das Gupta and A. K. Banerjee	5	633

<b>Subject-Author</b>	<b>No.</b>	<b>Page</b>	<b>Subject-Author</b>	<b>No.</b>	<b>Page</b>
Design of Piping Systems for Phosphoric Acid Plants —C. C. Narayanaswamy, P. Rajan George, A. A. Bhat ..	10	1065	Fertilizer Requirements in Developing Countries —A. von Peter ..	12	GEN-2/1
Design and Significance of Demineralising Plants —Wanson (India) Pvt. Ltd. ..	10	1069	Few Thoughts on Education in India, A —Atma Ram ..	11	1149
Design of Titanium Substrate Insoluble Anodes (TSIA) for Chlor-Alkali Cells in India —B. R. Yadav, S. Krishnamurthy, P. Subbiah, K. Asokan and H. V. K. Udupa ..	5	525	Flemion Membrane Chlor-Alkali Process, The —Masao Nagamura, Hiroshi Ukihashi and Osamu Shiragami ..	5	441
Development of Air Pollution Control in the Indian Cement Industry —A. Mookherjee ..	8	917	Fuel Gas from Coal by Lurgi Pressure Gasification —Herbert Bierbach and N. C. Sharma ..	11	1127
Development of Environmental Pollution Protective Technology for Mercury-Process Chlor-Alkali Cells —F. Y. Masuda ..	5	489	Further Development of Mini-Cement Plants in India —Cement Research Institute of India, New Delhi ..	8	851
Developments in Fertilizer Production —J. Eimers ..	12	DEV-6/1	<b>G</b>		
Developments in Nitrophosphate Technologies for High Water Soluble Phosphatic Fertilizers —S. K. Mukerjee ..	12	DEV-5/1	Gasohol (Editorial) ..	4	302
Disposal of Spent Wash by Incineration —K. C. Khurana and A. K. Monga ..	7	771	Generalized Cost Model for Coal Conversion Systems, A ..	9	975
Drying a Bed of Corn with Intermittent Heat Input: I—Experimental —G. O. I. Ezeike ..	3	21	Glassed-Steel Equipment: Guidelines for Design, Review, Quality Assurance, Reliability in Operation and Maintenance ..	6	669
Drying Rate Curve and Cottage Dryer Design for Hard Shelled Crayfish (Palaemon Paurideus) —O. O. Omate and V. I. Nte ..	3	207	GRP: Material of Construction and Maintenance in Chlor-Alkali Industry —Satish Sharma and L. R. Kishore ..	5	575
<b>E</b>			<b>H</b>		
Economic Feasibility of Gasification in Nigeria —P. B. Onaji, S. S. Adefila and A. A. C. M. Beenackers ..	3	194	Hazards in the use of Ammonia Solutions —Ram Murti ..	7	747
Economics of Fertilizer Use The Key to Farmer's Acceptability of Fertilizer—Indian Perspective —Dr. A. S. Kahlon ..	12	M&C-2/1	Heat Economy of Furnaces and Boiler Plants in Refinery and Petrochemical Industry —G. L. Nayar ..	7	767
Energy Conservation in Fertilizer Plants —K. S. Chari ..	6	697	"How to make Industrial Fans, Blowers and Exhausters Behave Gently?" —Anupam Halder ..	4	335
Energy Crisis and Efficient use of Fertilizer, —P. S. Lamba ..	12	M&C-4/1	Hybrid Cooling System for Industrial Application —C. I. Ezekwe ..	3	270
Energy Options—A plea for non-conventional sources (Editorial)	7	714	Hydrogen Production by Pressure Swing Adsorption —S. Sanwal ..	7	763
Energy Saving Methods for Producing Distilled Water —John P. Toohil, Jr. ..	9	981	Hydrogen Utilisation from Caustic-Chlorine Plants —R. K. Gupta ..	5	539
Energy Savings in Urea Production —D. G. Rao ..	12	ECO-2/1	Hypochlorite Oxidized Cassava Starch —Frank G. Vanden Aarsen and Antonie A. C. M. Beenackers ..	3	243
Energy Storage Systems —N. P. Shukla ..	11	1117	<b>I</b>		
Engineer and His Responsibilities, The —S. Sekar ..	2	145	Indian Cement Industry—An Overview —N. Subrahmanyam ..	8	815
Evolution of a Fertilizer Marketing System in India—A Critical Review —I. J. Heredia ..	12	M&C-1/1	Industrial Energy Conservation —John P. Mathew ..	11	1121
Expansion/Modernisation of Chlor-Alkali Plants in India —Richard G. Erath ..	1	27	Integrated Transport System for Fertilizers —S. Venkataraman ..	12	M&C-3/1
Experimental Determination of some Thermal Properties of Palm Fibre, Kernel and Shell —D. C. Onyejekwe and S. O. Onyegegbu ..	3	204	Iron and Steelmaking Process in Arabian Gulf Countries —M. E. El-Dahshan ..	3	253
Explosive Cladding of Metals —B. N. Acharya ..	5	565	<b>K</b>		
Extended Imbibition, Clarification and Thin Layer Evaporation with Latent Heat Recovery for Rural Sugar Production —J. M. M. Bodewes, M. M. M. Smits and A. A. C. M. Beenackers ..	3	221	Kinetics Technology India Ltd. (Feature) Editorial Introduction ..	7	751
<b>F</b>			KTI-Keyed up for total engineering at home and for export —K. C. Khurana ..	7	757
Failure of Plant or Equipment to perform as per Design Conditions: Reasons and Corrective Steps —Dr. B. S. Subrahmanyam ..	7	739	<b>L</b>		
Leaching of Manganese Pyrolusite Ore and Electro-deposition of Manganese from Purified Leach-Solution —V. O. Nwoko ..	3	262			
Level Measurements in Cement Plants —Endress & Hauser GmbH, West Germany ..	8	881			

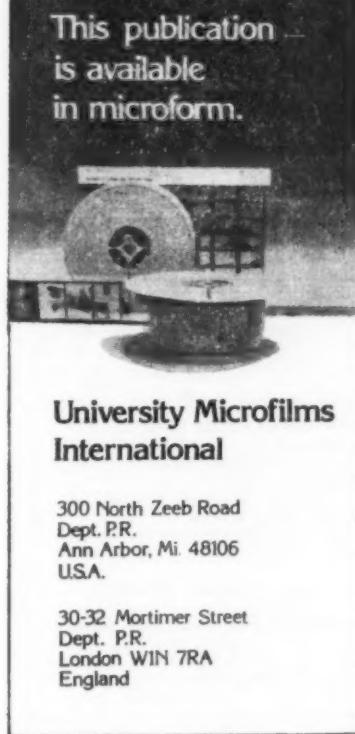
<i>Subject-Author</i>	<i>No.</i>	<i>Page</i>	<i>Subject-Author</i>	<i>No.</i>	<i>Page</i>	
"Looking back, looking forward—The Fertilizer Industry" — <i>F. J. de Souza</i>	12	13	New Developments in Alkaline Chloride Electrolysis Process (Keynote address) — <i>Dr. B. Strasser</i>	1	9	
Low Cost Technology of Reducing Phenol in Effluent Water—A Case Study — <i>B. C. Pande, B. S. Tyagi, N. D. Gupta</i>	4	343	New Packaging Medium for Fertilizers — <i>H. B. Barat</i>	12	P-1/1	
Low Heat Input Maintenance Welding in Cement Industry — <i>M. L. Gehani</i>	8	897	New Precalculator Technology for Cement Industry—MFC System — <i>ACC Ltd., Consulting Division</i>	8	855	
<b>M</b>						
Maintenance Problems for Conveyor Belts in Mining Industries — <i>G. Spaar and Dr. H. P. Lachmann</i>	2	103	New Process for Fuel Oil Based Ammonia Plants — <i>E. Dyekjaer Hansen</i>	12	DEV-3/1	
Man—His Mind and His Material Resources — <i>Dr. Donald F. Othmer</i>	9	969	New Trends in Cooling Water Treatment — <i>K. M. Verma, M. P. Gupta, B. B. Sinha, J. S. Rai and D. R. Oswal</i>	11	1137	
Materials for Nitric Acid Plant — <i>S. C. Choudhary and R. K. Sinha</i>	7	735	Newer Materials of Construction in Chlor-Alkali Plants — <i>S. L. Chawla, R. K. Gupta, Vijay Mehta and A. K. Gupta</i>	5	571	
Materials Handling in a Cement Plant — <i>J. V. Kudchadkar</i>	8	901	Newsletter on Petrochemicals and Polymers Neyveli Lignite Corporation Ltd. Fuel Changeover Scheme (Feature)	4	373	
Material Handling in Fertilizer Plants: A Designers Problems — <i>G. Pandey</i>	12	MH-1/1	Rebirth of Neyveli Fertilizer Plant — <i>S. Chander</i>	2	115	
Materials Handling in Process Industries — <i>M. Madhusudana Rao</i>	2	89	Neyveli Fuel Oil Changeover Project—Process Design and Engineering Considerations — <i>M. K. Lodh</i>	2	125	
Materials of Construction in Chlor-Alkali Industry—Rubber — <i>V. Chellappa Chandrasekharan</i>	5	579	Mining of Lignite at Neyveli — <i>K. R. Ilango</i>	2	131	
Melting Points of Binary Wax Mixtures — <i>N. G. Wagle</i>	4	345	Lignite Based Plants at Neyveli — <i>C. R. Mahadevan</i>	2	136D	
Membrane Cell Technology—View of an Engineering Company — <i>K. Lohrberg and G. Klamp</i>	5	463	Neyveli Thermal Power Station: Features and Prospects — <i>C. Venkataraman and D. Vevanathan</i>	2	137	
Mercury Recovery from Waste Streams by means of the Imac TMR Ion-Exchange Process — <i>J. H. Vis</i>	5	481	<b>O</b>			
Minimise Catalyst Costs in Ammonia Plants — <i>K. S. Chari</i>	7	749	<i>Obituary :</i> Dr. Alex Leiser Mr. D. Madhukar Mr. Heinrich Stoeckler Dr. Shanti Swarup	2	insert	
Modern Amalgam Cell Technology and Proven Methods for Maximum Reduction of Mercury Losses — <i>Heinz Isfort</i>	1	39	On the Role of Potash—A Review — <i>Y. K. Varma</i>	7	729	
Modular Plant Concepts (Editorial) MOD III—A New Concept in Centralised Process Control (abstract) — <i>S. Ramnath</i>	2	84	Operation and Maintenance Practices of Chlor-Alkali Mercury Cells — <i>P. S. Bhatia</i>	5	505	
Multi-Item Production Scheduling Problem in a Process Industry, A — <i>P. G. Awate and S. N. Pathak</i>	5	561	Optimising Inspection—An essential prerequisite for an effective Maintenance in Cement Plants — <i>G. Jayaraman</i>	8	893	
N	10	1073	Optimisation of Caustic Soda/Chlorine Plant Operation with special reference to Energy Saving — <i>S. P. Srivastava and R. Ramakrishnan</i>	1	49	
Narmada Cement Company Ltd. (Feature) Editorial Introduction Evolution of the Project — <i>V. D. Chowgule</i>	8	925	Optimum Utilization of Compressed Air — <i>Oswin D'Mello</i>	7	733	
The Project — <i>S. R. Wagle</i>	8	929	Oxy Hemihydrate Phosphoric Acid Process, The — <i>M. B. Caesar, H. C. Smith and L. E. Mercando</i>	12	TECH-4/1	
Narmada Cement Plant Project will help India's Progress — <i>Fuller Company</i>	8	931	<b>P</b>			
Sea Transportation at Narmada Cement Company Limited — <i>Ashok Chowgule</i>	8	935	Paper from Tropical (Nigerian) Hardwoods — <i>S. B. Bolaji</i>	3	247	
Need-Based Technical Education by Industry-Academic Interaction — <i>K. V. Ramalingam</i>	10	1079	Pass Partition Plate in Shell and Tube Heat Exchanger—A Brief Study — <i>R. Varadarajulu</i>	9	1005	
New Concept in Industrial Maintenance: High Pressure Water Jetting — <i>Voltas Ltd., Bombay</i>	2	111	Personalia /Appointments Mr. P. K. Chadha Mr. A. B. Roy Chowdhury Mr. N. Kenneth Davis Mr. Sangramsingh P. Gaekwad Mr. Shashikant K. Gandhi Mr. A. S. Ganguly Shri D. C. Gami Dr. Easo. John Mr. S. Krishnaswami Mr. Guy Labrosse Mr. D. A. Lynn Mr. B. K. Mazumdar	6	707a	
New Concept Ammonia Process with Higher Efficiency — <i>Willem F. Van Weenen and Jack Tielrooy</i>	12	DEV-2/1	4	387		
New Innovation in Urea Technology — <i>T. Jojima, H. Ono, M. Nobue, B. Kinno and Y. Yamamoto</i>	12	DEV-1/1	9	1019		
			10	1089		
			10	1089		
			6	707a		
			2	156-B		
			2	156-B		
			3	287		
			8	945		
			9	1019		

<i>Subject-Author</i>	<i>No.</i>	<i>Page</i>	<i>Subject-Author</i>	<i>No.</i>	<i>Page</i>
Mr. P. Mitra	8	945	<i>Profiles</i>		
Prof. Nayudamma	6	707a	Carborundum Universal Ltd. Completes 25 years	6	685
Mr. P. J. Panikar	6	707a	Cement Corporation of India Ltd., The	8	867
Mr. John Selwyn Peasgood	3	287	Escorts Ltd.	3	293A
Mr. Anatole M. Schwieger	3	287	Fertilizer Association of India, The First	3	293A
Mr. Kalgan Sen	8	945	Quarter Century	12	A-1/1
Mr. Sat Sev Singh	6	707a	Fertilizer Society, The	12	A-3/1
Mr. R. L. Steinmetz	11	1165	IFDC has Come of Age, The		
Mr. K. R. V. Subramanyam	4	387	—Donald L. McCune	12	A-2/1
Mr. Peter George Sulzer	3	287			
Mr. L. R. Talwar	7	781			
Mr. John Ungar	4	387			
Mr. Dinesh Zaveri	11	1165			
Dr. R. T. Rathi	8	945			
Perspectives for Eighties			<b>Q</b>		
—K. T. Thampi	1	61	Quality Control in Cement Industry		
Plant for Ethanol Production			—S. B. Karki	8	907
—Dr. rer nat Hartmut Bruscké	3	179			
Plate-type Cells for Brine Electrolysis					
—E. Hausmann, H. Will and A. Belloni	5	43	<b>R</b>		
Pneumatic Conveying			Raw Materials for Cement Manufacture— Present Status, Problems and Advancements		
—S. N. Ghosh	2	93	—Cement Research Institute of India	8	831
Pollution from Chemical, Plastic and Rubber Industries: The case of Kanpur City			Recent Developments in Chlor-Alkali Industry		
—V. K. Kumra and Rahul Singh	11	1143	—J. D. Adhia	5	411
Pollution Problems in Fertilizer Industry			Regeneration of Technology Imports in Developing Countries Through 'Adaptation Research': Experience in the Phosphate Fertilizer Industry		
—J. R. Mudakavi	12	ECO-1/1	—H. E. Wilson—Iteke, J. T. Ogungbenmi and J. Okediji	3	266
Post-graduate Chemists in India—Avail- ability and Utilisation			Reports/Proceedings of Seminars, Confer- ences and Exhibitions		
—C. R. S. Rao	9	1009	Udhe India Seminar on recent develop- ments in Chlor-Alkali Technology	1	5
Potash—A look to 1985			FAI Annual Seminar 1979	1	76
—Ralf Zimmermann v. Siegart	12	RM-1/1	Second All-India Petroleum Refiners Conference	2	156-D
Potash Industry—Worldwide			International Conference on Chemical Technology for Developing Countries— Introduction and Inaugural Session	3	165
J. D. Adhia	7	719	Session—I-Energy from Biological Re- sources	3	170
Practical Experience with Metal Anodes in Diaphragm Cells at DCM Chemical Works			Session—II-Products from Biological Resources	3	203
—S. K. Nanda and V. Mehta	5	521	Session—III-Products from Minerals and Mineral Oils	3	251
Practical Refining of Nigerian Crudes for Production of Bitumen and Lubricat- ing Oils			Fertilizer Society of London	3	291
—D. O. Egbuna, G. D. O. Asiamah and A. T. Oyegunle (Mrs.)	3	257	Searle (India) Ltd. Expanding	3	291
Precalcination Technology—ACC first off the mark with MFC system			Seminar on Energy Saving through Heat Recovery	3	291
Present State and Development of Modern Process Control Systems in Cement Plants	3	293-C	Lecture-cum-Seminar on Self Reliance v/s Dependency	3	292
—Gunter Schmidgen	8	873	Progress at HOC	4	390
Pressure Plate Filter for Removal of Mercury			ACC Catalyst and Adsorbent Plants	4	390
—J. C. Barabia and R. Kern	5	515	OPPI—Annual General Meeting	4	391
Price Fixation for Cement			Tulsi Fine Chemical Industries	4	392
—R. L. Narayana	8	827	Proceedings of a Seminar organised by NRC, IICHE—"Recent Developments in Chlor-Alkali Technology"—Inaugu- ral Session	5	427
Problems of Environmental Pollution and Its Hazards in Refinery and Petrochemical Plants			Technical Session I—Latest Develop- ments in Cell Technology	5	433
—P. R. Gharekhan and A. M. Dand	4	331	Discussions on papers presented in Technical Session—I	5	477
Process Development for Processing Fric- tional Material From Cashew Nut Shell Liquid			Technical Session II—Mercury Cells— Developments, Operation, Mainten- ance, Mercury Recovery	5	481
—M. V. Vaidya	3	229	Discussions on Papers presented in Technical Session II	5	518
Process Instrumentation Tips for Better Oper- ational Stability in Fertilizer Plants			Technical Session III—Metal Anodes	5	521
—Sat Pal	12	PC-1/1	Discussions on Papers presented in Tech- nical Session III	5	526
Production and Characterization of Acti- vated Carbon from Tropic Carbonaceous Materials, The			Technical Session IV—Auxiliaries and By-products	5	527
—O. Olaofo and H. Bosch	3	238	Discussions on Papers presented in Technical Session IV	5	561
Production of Potassium Sulphate using Gypsum			Technical Session V—Materials of Con- struction and Equipment Fabrication	5	565
—K. S. Chari	1	75	Discussions on Papers presented in Technical Session V	5	586
Production of Synthesis Gas from Coal and the Further Processing to Urea with special consideration of the Koppers- Totzek Process, The					
—Hermann Staeger					
Production of Urea Super-granules by the Norsk Hydro High Temperature Pan Granulation Process, The					
—E. Holte et al					
Production of Urea Super-granules by the Norsk Hydro High Temperature Pan Granulation Process, The					
—E. Holte et al	12	TECH-5/1			



<i>Subject-Author</i>	<i>No.</i>	<i>Page</i>	<i>Subject-Author</i>	<i>No.</i>	<i>Page</i>
<b>V</b>			World Fertilizer Situation and Outlook—1978-85 — <i>Gene T. Harris and Edwin A. Harre</i> ..	12	GEN-1/1
Vegetable Oil as a Source of Raw Material for Chemical Industry in India — <i>Dr. S. K. Sinha</i> ..	10	1051	World Sulphur Supply and Demand—A Conspectus — <i>V. Sarangan</i> ..		RM-2/1
Viewpoint—Excerpts from an interview with Mr. S. Krishnaswami, Managing Director of ACC Ltd. ..	8	803-A	World's Largest Capacity Ropeway World Energy Conference and India (Editorial) ..	2	143
				11	1106a
<b>W</b>				<b>Z</b>	
Where to get Literature Information — <i>V. Shankar</i> ..	7	775	Zero Discharge from Urea Plants — <i>K. S. Chari</i> ..	4	369

Each Voulme of  
*Chemical Age of India*  
 Contains  
**A wealth of  
 Technical information  
 in over 1200  
 Printed Text pages.  
 It cost you only  
 Rs. 150/- to subscribe.  
 Do so today!**



## AUTHOR INDEX

<i>Author-Subject</i>	<i>No.</i>	<i>Page</i>	<i>Author-Subject</i>	<i>No.</i>	<i>Page</i>			
<b>A</b>								
<i>Aarsen Frank G. van den</i> —Hypochlorite Oxidized Cassava Starch ..	3	243	<i>Biege Neal W.</i> —Bypass systems for pre-heater and flash calciner kilns ..	8	847			
<i>ACC Ltd., Consultancy Division, Bombay</i> —New Precalculator Technology for Cement Industry-MFC System ..	8	855	<i>Bierbach Herbert</i> —Fuel Gas from Coal by Lurgi Pressure Gasification ..	11	1127			
<i>Acharya B. N.</i> —Explosive Cladding of Metals ..	5	565	<i>Bindal M. C.</i> —Technology Transfer ..	4	307			
<i>Adcfila S. S.</i> —Economic Feasibility of Gasification in Nigeria ..	3	194	<i>Biswas D. K.</i> —Glass-Steel Equipment: Guidelines in operation and Maintenance ..	6	669			
<i>Adhia J. D.</i> —Chlor-Alkali Industry Worldwide ..	5	419	<i>Biswas D. K.</i> —Research and Development Work on Coal Gasification ..	6	663			
<i>Adhia J. D.</i> —Potash Industry—Worldwide ..	7	719	<i>Bodewes J. M. M.</i> —Extended Imbibition, Clarification and Thin Layer Evaporation with Latent Heat Recovery for Rural Sugar Production ..	3	221			
<i>Adhia J. D.</i> —Recent Developments in Chlor-Alkali Industry ..	5	411	<i>Bolaji S. B.</i> —Paper from Tropical (Nigerian) Hardwoods ..	3	247			
<i>Adhia J. D.</i> —Soda Ash Industry—Worldwide ..	4	311	<i>Bosch H.</i> —The Production and Characterization of Activated Carbon from Tropic Carbonaceous Materials ..	3	238			
<i>Agarwal Y. K.</i> —Control of Cadmium from Discharge of Industrial Effluents to the Environment ..	10	1071	<i>Brown F. C.</i> —Coal Gasification—Routes to Ammonia and Methanol ..	12	TECH-3/1			
<i>Agarwal A. P.</i> —Cement Machinery Manufacturing Industry in India—Its present status ..	8	883	<i>Bruun S.</i> —Choice of Technology in Agro-Based Industry: An Example from Sugarcane Processing ..	3	214			
<i>Ahuwalia S. C.</i> —Application of Colorimetric Methods for Process and Quality Control in Cement Manufacture ..	8	909	<i>Bruinsma D. H.</i> —Choice of Technology in Agro-based Industry: An example from Sugarcane Processing ..	3	214			
<i>Ashokan K.</i> —Design of Titanium Substrate Insoluble Anodes (TSIA) for Chlor-Alkali Cells in India ..	5	525	<i>Brusche Hartmut Dr. Rer. Nat.</i> —Plant for Ethanol Production ..	3	179			
<i>Ayiamah G. D. O.</i> —Practical Refining of Nigerian Crudes for Production of Bitumen and Lubricating Oils ..	3	257	<b>C</b>					
<i>Awasthi S. K.</i> —Some thoughts on Rural Development with Special Reference to Uttar Pradesh ..	4	357	<i>Caesar M. B.</i> —The Oxy Hemihydrate Phosphoric Acid Plant ..	12	TECH-4/1			
<i>Awate P. G.</i> —A Multi-Item Production Scheduling Problem in a Process Industry ..	10	1073	<i>Cement Research Institute of India, New Delhi</i> —CRI's Technological Support to Cement and Allied Industries ..	8	869			
<b>B</b>								
<i>Babaria J. C.</i> —Pressure Plate Filter for Removal of Mercury ..	5	515	<i>Cement Research Institute of India, New Delhi</i> —Further Development of Mini-Cement Plants in India ..	8	851			
<i>Balakrishnan T. N.</i> —Triple Effect Caustic Soda Evaporation System ..	5	553	<i>Cement Research Institute of India, New Delhi</i> —Raw Materials for Cement Manufacture—Present Status, Problems and Advancements ..	8	831			
<i>Banerjee A. C.</i> —The Role of Cement in Mass Housing Programmes ..	8	823	<i>Cement Research Institute of India, New Delhi</i> —Status of Research and Development Activities on Cement in India ..	8	861			
<i>Banerjee A. K.</i> —Design Concept for Caustic Chlorine Plant for a Developing Economy ..	5	633	<i>Chander S.</i> —Rebirth of Neyveli Fertilizer Plant ..	2	115			
<i>Barai H. B.</i> —New Packaging Medium for Fertilizers ..	12	P-1 /	<i>Chandrasekharan V. Chellappa</i> —Materials of Construction in Chlor-Alkali Industry—Rubber ..	5	579			
<i>Belloni A.</i> —Plate Type Cells for Brine Electrolysis ..	5	433	<i>Chari K. S.</i> —Chemicals from Coal ..	3	277			
<i>Beenackers A. A. C. M.</i> —Economic Feasibility of Gasification in Nigeria ..	3	194	“ —Energy Conservation in Fertilizer Plants ..	6	697			
<i>Beenackers A. A. C. M.</i> —Extended Imbibition, Clarification and Thin Layer Evaporation with Latent Heat Recovery for Rural Sugar Production ..	3	221	“ —Minimise Catalyst Costs in Ammonia Plants ..	7	749			
<i>Beenackers A. A. C. M.</i> —Hypochlorite Oxidized Cassava Starch ..	3	243	“ —Production of Potassium Sulphate using Gypsum ..	1	75			
<i>Berg C. van den</i> —Choice of Technology in Agro-Based Industry: An Example from sugarcane processing ..	3	214	“ —Zero Discharge from Urea Plants ..	4	369			
<i>Bhat A. A.</i> —Design of Piping Systems for Phosphoric Acid Plants ..	10	1065	“ —Coal-Based Ammonia ..	2	147			
<i>Bhatia P. S.</i> —Cell Technology: Its Importance, Practice and Selection for Indian Caustic Soda Plants ..	5	603	<i>Chatterjee Sivabratra</i> —Base Document on Chlor-Alkali Industries in India ..	5	595			
<i>Bhatia P. S.</i> —Operation and Maintenance Practices of Chlor-Alkali Mercury Cells ..	5	505	<i>Chaudhri J. L.</i> —Some Thoughts on Rural Development with Special Reference to Uttar Pradesh ..	4	357			
			<i>Chawla S. L.</i> —Newer Materials of Construction in Chlor-Alkali Plants ..	5	571			
			<i>Chopra S. C.</i> —Technological Development and Latest Trends in Cement Manufacture ..	8	885			
			<i>Choudhary S. C.</i> —Materials for Nitric Acid Plant ..	7	735			

<i>Author-Subject</i>	<i>No.</i>	<i>Page</i>	<i>Author-Subject</i>	<i>No.</i>	<i>Page</i>
<i>Chowgule Ashok—Sea Transportation at Narmada Cement Company Ltd.</i> ..	8	939	<i>Gupta M. P.—New Trends in Cooling Water Treatment</i> ..	11	1137
<i>Chowgule V. D.—Evolution of the Project (Narmada Cement Company Ltd.)</i> ..	8	929	<i>Gupta N. D.—Low Cost Technology of Reducing Phenol in Effluent Water—A Case Study</i> ..	4	343
<i>Commandini Ettore—Advances in Catalyst and Reactor Design for Low Energy Ammonia Production</i> ..	12	DEV-4/1	<i>Gupta P. C.—Utilisation of Coal for Energy and Feedstock</i> ..	12	TECH-1/1
<b>D</b>					
<i>Dand A. M.—Problems of Environmental Pollution and Its Hazards in Refinery and Petrochemical Plants</i> ..	4	331	<i>Gupta R. K.—Hydrogen Utilization from Caustic-Chlorine Plants</i> ..	5	539
<i>Das Gupta N. N.—Design Concept for Caustic Soda Plant for a Developing Economy</i> ..	5	633	“—Newer Materials of Construction in Chlor-Alkali Plants	5	571
<i>Dash R. N.—Sequestration: Its Application in Technology</i> ..	9	985	“—Techno-Economic Selection of Cell Technology for Chlor-Alkali Plants	5	609
<i>De Souza F. J.—“Looking back, Looking forward—The Fertilizer Industry”</i> ..	12	13	“—Cell Technology Section—A Panel Discussion	5	627
<i>Devanathan D.—Neyveli Thermal Power Station Features and Prospects</i> ..	2	137	“—Welcome Address—Seminar on recent Developments in Chlor-Alkali Technology	5	427
<i>Dixit R. K.—A Study of Failure of an Induced Draft Cooling Tower Fan</i> ..	10	1077	<b>H</b>		
<i>D'Mello Oswin—Optimum Utilization of Compressed Air</i> ..	7	733	<i>Haldar Anupam—“How to Make Industrial Fans, Blowers and Exhausters behave gently?”</i> ..	4	335
<i>D'Souza Nirmala—The Cement Corporation of India Ltd.</i> ..	8	867	<i>Hamilton W.—The Utilisation of By-products from the Sugar Industry</i> ..	3	226
<i>Dhawan A. K.—Application of colorimetric methods for Process and Quality Control in Cement Manufacture</i> ..	8	909	<i>Hansen Dyckjaer E.—A New Process for Fuel Oil Based Ammonia Plants</i> ..	12	DEV-3/1
<b>E</b>					
<i>Edewor J. O.—Conversion of Nigerian Cellulose (Forestry and Agricultural Wastes) to Oils and Gases—A Future Potential</i> ..	3	182	<i>Hargreaves H. G.—Coal Gasification—Routes to Ammonia and Methanol</i> ..	12	TECH-3/1
<i>Eghuna D. O.—Practical Refining of Nigerian Crudes for Production of Bitumen and Lubricating Oils</i> ..	3	257	<i>Harre Edwin A.—World Fertilizer Situation and Outlook—1978-85</i> ..	12	GEN-1/1
<i>Elmers Jac—Developments in Fertilizer Production</i> ..	12	DEV-6/1	<i>Harris Gene T.—World Fertilizer Situation and Outlook—1978-85</i> ..	12	GEN-1/1
<i>Dahshan M. E. El—Iron and Steel making Processes in Arabian Gulf Countries</i> ..	3	253	<i>Hausmann E.—Plate Type Cells for Brine Electrolysis</i> ..	5	433
<i>Endress &amp; Hauser GmbH; West Germany—Level Measurements in Cement Plants</i> ..	8	881	<i>Heredia F. J.—Evolution of a Fertilizer Marketing System in India</i> ..	12	M&C-1/1
<i>Erath Richard G.—Expansion/Modernisation of Chlor-Alkali Plants in India</i> ..	1	27	<i>Hruda R. M.—Application of Vacuum Switches in Mercury Cells</i> ..	5	509
<i>Ezeike G. O. I.—Drying a Bed of Corn with Intermittent Heat Input: I-Experimental</i> ..	3	211	<i>Holte E.—The Production of Urea Super granules by the Norsk Hydro High Temperature Pan granulation process</i> ..	12	TECH-5/1
<i>Ezekwe C. I.—Hybrid Cooling System for Industrial Application</i> ..	3	270	<b>I</b>		
<b>F</b>					
<i>Fuller Company, Bethlehem, Pa. USA—Narmada Cement Plant Project will help India's Progress</i> ..	8	935	<i>Hango K. R.—Mining of Lignite at Neyveli</i> ..	2	131
<b>G</b>					
<i>Gami D. C.—Self-Sufficiency in Fertilizers</i> ..	12	IS-2/1	<i>Isfort Heinz—Modern Amalgam Cell Technology and Proven Methods for Maximum Reduction of Mercury losses</i> ..	1	39
<i>Gehani M. L.—Low heat input maintenance welding in Cement Industry</i> ..	8	897	<b>J</b>		
<i>George P. Rajan—Design of Piping systems for Phosphoric Acid Plants</i> ..	12	1065	<i>Jayaraman G.—Optimising Inspection—An Essential prerequisite for an Effective Preventive Maintenance in Cement Plants</i> ..	8	893
<i>Gharekhan P. R.—Problems of Environmental Pollution and Its Hazards in Refinery and Petrochemical Plants</i> ..	4	331	<i>John Easo (Dr.)—Challenges facing the Fertilizer Industry</i> ..	12	IS-1/1
<i>Ghosh S. N.—Pneumatic Conveying</i> ..	2	93	<i>Jojima T.—New Innovation in Urea Technology</i> ..	12	DEV-1/1
<i>Groeneveld J. Michiel—Social and Economic Aspects of the Introduction of Gasification Technology in the Rural Areas in Developing Countries e.g. Tanzania</i> ..	3	185	<i>Jones G.—Steel Belt Conveyor Systems for Material Handling</i> ..	2	99
<i>Groeneveld J. Michiel—The Design of Current Moving Bed Gasifiers fuelled by Biomass</i> ..	3	171	<i>Juncja M. R.—Research and Development Work on Coal Gasification</i> ..	6	663
<i>Gupta A. K.—A Study of Failure of an Induced Draft Cooling Tower Fan</i> ..	10	1077	<b>K</b>		
<i>Gupta A. K.—Newer Materials of Construction in Chlor-Alkali Plants</i> ..	5	571	<i>Kahlon A. S.—Economics of Fertilizer Use: The Key to Farmers' Acceptability of Fertilizer—Indian Perspective</i> ..	12	M&C-2/1
			<i>Karki S. B.—Quality Control in Cement Industry</i> ..	8	907
			<i>Kern R.—Pressure Plate Filter for Removal of Mercury</i> ..	5	515
			<i>Khurana K. C.—K.T.L—Keyed up for total engineering at home and for export</i> ..	7	757
			<i>Khurana K. C.—Disposal of Spent Wash By Incineration</i> ..	7	771

<i>Author-Subject</i>	<i>No.</i>	<i>Page</i>	<i>Author-Subject</i>	<i>No.</i>	<i>Page</i>	
Kinno B.—New Innovation in Urea Technology	12	DEV-1/1	Mulchandani A. K.—Studies in Removal of Mercury from Brine Mud	5	495	
Kishore L. R.—GRP: Materials of Construction and Maintenance in Chlor-Alkali Industry	5	575	Mukherjee S. K.—Developments in Nitrophosphate Technologies for High Water soluble Phosphatic Fertilizers	12	DEV-5/1	
Klamp G.—Membrane Cell Technology—View of an Engineering Company	5	463	Murti Ram—Hazards in the use of Ammonia Solutions	7	747	
Kouloheris A. P.—Uranium Recovery from Phosphoric Acid (A Process Engineering Review)	12	DEV-1/1	Madhusudana Rao M.—Materials Handling in Process Industries	2	89	
Krishnamurti Rao C. H.—Role of Titanium in Chlor-Alkali Industry	5	583	<b>N</b>			
Krishnamurthy S.—Design of Titanium Substrate Insoluble Anodes (TSIA) for Chlor-Alkali Cells in India	5	525	Nagamura Masao—The Flemion Membrane Chlor-Alkali Process	5	441	
Kudchadkar J. V.—Materials Handling in a Cement Plant	8	901	Nair A. G. K.—Cooling Water Treatment in Chemical Plants	11	1133	
Kulkarni M. V.—Studies in Treatment of Liquid Effluent from Chlor-Alkali Industry	5	499	Nanda S. K.—Practical Experience with Metal Anodes in Diaphragm Cells at DCM Chemical Works	5	521	
Kumar A. V.—The Scope for the Chemical Engineers' involvement in Rural Developmental Activities	4	363	Nand Satya—The Role of F.A.I.	12	IS-3/1	
Kumar Surendra—Sulphur Dioxide Pollution Control Technology	4	997	Nandi N. R.—Design Concept for Caustic Chlorine Plant for a Developing Economy	5	633	
Kumar V.—Ultrasonic Assembly of Thermoplastics—A New Technique	9	377	Narayana P. L.—Price Fixation for Cement	8	827	
Kumra V. K.—Pollution from Chemical, Plastic and Rubber Industries: The Case of Kanpur City	11	1143	Narayanaswamy C. V.—Design of Piping Systems for Phosphoric Acid Plants	10	1065	
<b>L</b>			Nayar G. L.—Heat Economy of Furnaces and Boiler Plants in Refinery and Petrochemical Industry	7	767	
Lachmann H. P.—Maintenance Problems of Conveyor Belts in Mining Industries	2	103	Nobue M.—New Innovation in Urea Technology	12	DEV-1/1	
Lamba P. S.—The Energy Crisis and Efficient use of Fertilizer	12	M&C-4/1	Nie V. I.—Drying Rate Curve and Cottage Dryer Design for Hard Shelled Crayfish (Palaemon paureus)	3	207	
Lasmi S.—Application of colorimetric methods for Process and Quality Control in Cement Manufacture	8	909	Nwoko V. O.—Leaching of Manganese Pyrolusite Ore and Electrodeposition of Manganese from Purified Leach-Solution	3	262	
Lodh M. K.—Neyveli Fuel Oil Changeover Project—Process Design and Engineering considerations	2	125	<b>O</b>			
Lohrberg K.—Membrane Cell Technology—View of an Engineering Company	5	463	Ogawa Shinsaku—Asahi Chemical Membrane Chlor-Alkali Process	5	447	
Longe T. A.—Sulphur Retention by Limestones exposed to a Model Atmospheric Fluidized Bed Gas	3	273	Ogungbemi J. T.—Regeneration of Technology Imports in Developing Countries Through 'Adaptation Research' Experience in the Phosphate Fertilizer Industry	3	266	
<b>M</b>			Okedji J.—Regeneration of Technology Imports in Developing Countries Through 'Adaptation Research' Experience in the Phosphate Fertilizer Industry	3	266	
Mahadevan C. R.—Lignite Based plants at Neyveli	2	136-D	Olaofe O.—The Production and Characterization of Activated Carbon from Tropical Carbonaceous Materials	3	238	
Mathew John P.—Industrial Energy Conservation—The Role of Heat Recovery Systems	12	1121	Onaji P. B.—Economic Feasibility of Gasification in Nigeria	3	194	
Majumder D.—A Generalized Cost Model for Coal Conversion Systems	9	975	Ono H.—New Innovation in Urea Technology	12	DEV-1/1	
Masuda F. Y.—Development of Environmental Pollution Technology for Mercury-Process Chlor-Alkali Cells	5	489	Onyejekwe D. C.—Experimental Determination of Some Thermal Properties of Palm Fibre, Kernel and Shell	3	204	
McGreavy—An Analysis of Multi-Product Food Processing Industries for Developing Countries	3	233	Onyegegbu S. O.—Experimental Determination of Some Thermal Properties of Palm Fibre, Kernel and Shell	3	204	
McLune Donald L.—The IFDC has come of Age	12	A-2/1	Oswal D. R.—New Trends in Cooling Water Treatment	11	1137	
Mehta Vijay—Newer Materials of Construction in Chlor-Alkali Plants	5	571	Othmer Donald—Alcohols as Fuels and Chemical Feedstocks	6	655	
Mehta Vijay—Practical Experience with Metal Anodes in Diaphragm Cells at DCM Chemical Works	5	521	Othmer Donald—Man His Mind and His Material Resources	9	969	
Mercando L. E.—The Oxy Hemihydrate Phosphoric Acid Process	12	TECH-4/1	Oyegeunle A. T. (Mrs.)—Practical Refining of Nigerian Crudes for Production of Bitumen and Lubricating Oils	3	257	
Monga A. K.—Disposal of Spent Wash by Incineration	7	771	Omatete O. O.—Drying Rate Curve and Cottage Dryer Design for Hard Shelled Crayfish (palaemon paureus)	3	207	
Mookherjee—Development of Air Pollution Control in the Indian Cement Industry	8	917	<b>P</b>			
Motani K.—The Tokuyama Soda Membrane Caustic Chlorine Process	5	457	Pal Sat—A Review of Downtime in Fertilizer Plants	12	PROD-1/1	
Mudakavi J. R.—Pollution Problems in Fertilizer Industry	12	ECO-1/1	Pal Sat—Process Instrumentation Tips for Better Operational Stability in Fertilizer Plants	12	PC-1/1	

<i>Author-Subject</i>	<i>No.</i>	<i>Page</i>	<i>Author-Subject</i>	<i>No.</i>	<i>Page</i>
Pande B. C.—Low Cost Technology of Reducing Phenol in Effluent Water: A Case Study	4	343	Saranathan C. P.—Triple Effect Caustic Soda Evaporation System	5	553
Pandey G.—Material Handling in Fertilizer Plants	12	MH-1/1	Sarangan V.—World Sulphur Supply and Demand	12	RM-2/1
Pandey G.—Some thoughts on Rural Development with Special reference to Uttar Pradesh	4	357	Schmiedgen Gunter—Present State and Development of Modern Process Control Systems in Cement Plants	8	873
Pangasa Rakesh—Technological Forecasting for Planning Research in Chemical Allied Industries	10	1041	Schurig H.—Adaption of Modern Chlor-Alkali Technologies by an Engineering Contractor	5	471
Parsons Ladd J.—Bypass Systems for pre-heater and flash Calciner kilns	8	847	Sekar S.—Engineer and His Responsibilities	2	145
Passariello Attilio—Advances in Catalyst and Reactor Design for Low Energy Ammonia Production	12	DEV-4/1	Sethi P. C.—Address at Seminar on Recent Developments in Chlor-Alkali Technology	5	430
Pathak S. N.—A Multi-item Production Scheduling Problem in a Process Industry	10	1073	Shankar V.—Where to get Literature Information	7	775
Patke S. K.—Control of Cadmium Pollution for Discharge of Industrial Effluents to Environment	10	1071	Sharma A. C.—Bio-Fertilizers: Prospects of Growth Extension and Promotion	12	AS-2/1
Peter A. von—Fertilizer Requirements in Developing Countries	12	GEN-2/1	Sharma Manju—Biogas Technology—A Renewable Energy Source for the Future	12	AS-1/1
Polycarp J.—Cement Industry—A Challenge to Engineers and Planners	8	809	Sharma N. C.—Fuel Gas from Coal by Lurgi Pressure Gasification	11	1127
Pothen Paul—Advances in Energy Reduction in Ammonia Plants	12	EC-1/4	Sharma Satish—GRP: Material of Construction and Maintenance in Chlor-Alkali Industry	5	575
Pothen Paul—Technology: Despoiler or Preserver	11	1111	Shiragami Osamu—The Flemion Membrane Chlor-Alkali Process	5	441
Preece P. E.—An Analysis of Multi-Product Food Processing Industries for Developing Countries	3	233	Shukla N. P.—Energy Storage Systems	11	1117
<b>R</b>			Shukla N. P.—Transformation of Pollutants in Water	11	1145
Radhakrishnan R. P.—Chlorine Liquefaction	5	531	Siefart R. Z.—Potash—A Look to 1985	12	RM-1/1
Rajagopalan R. P.—Cogeneration of Power Via MHD (A new Energy Concept for the Chlor-Alkali Industry)	5	589	Singh Rahul—Pollution from Chemical, Plastic and Rubber Industries: The case of Kanpur City	11	1143
Rai J. S.—New Trends in Cooling Water Treatment	11	1137	Singh S.—Research and Developmental Work on Coal Gasification	6	663
Ram Atma—A Few Thoughts on Education in India	11	1149	Sinhe B. B.—New Trends in Cooling Water Treatment	11	1137
Ramadurai V.—Introductory Speech, Seminar on Recent Developments in Chlor-Alkali Technology	5	429	Sinha R. K.—Materials for Nitric Acid Plant	7	735
Ramakrishnan R.—Optimisation of Caustic Soda/Chlorine Plant Operation with Special reference to Energy Saving	1	49	Sinha S. K.—Vegetable Oil as a Source of Raw Material for Chemical Industry in India	10	1051
Ramalingam K. V.—Need-Based Technical Education by Industry-Academic Interaction	10	1079	Smith H. C.—The Oxy Hemihydrate Phosphoric Acid Process	12	TECH-4/1
Raman R.—Air Pollution Problems and its control in the Cement Industry	8	913	Smits M. M. M.—Extended Imbibition, Clarification and Thin Layer Evaporation with Latest Heat Recovery for Rural Sugar Production	3	221
Ramani S.—Utilisation of Chlorine in a Gas-Based Petrochemical Complex	5	527	Spaar G.—Maintenance Problems of Conveyor Belts in Mining Industries	2	103
Ramanathan K. V.—Tasks Ahead for the Fertilizer Industry in India	12	L-1/1	Spitsbergen U.—Sulphur Retention by Limestones Exposed to a Model Atmospheric Fluidized Bed Gas	3	273
Ramnath S.—MOD-III—A New Concept in Centralised Process Control (abstract)	5	561	Squire C. B.—An Analysis of Multi-Product Food Processing Industries for Developing Countries	3	233
Rane V. C.—Studies in Removal of Mercury from Brine Mud	5	495	Srinivasan D.—The Scope for the Chemical Engineers Involvement in Rural Developmental Activities	4	363
Rane V. C.—Studies in Treatment of Liquid Effluent from Chlor-Alkali Industry	5	499	Srinivasan M.—Convert Effluents into Liquid Fertilizer	12	ECO-2/1
Rao A. K.—Comparative Study of Purification of Brine by Liquid Ion Exchange Technique/Removal of Ca + Mg as Insolubles	5	545	Sriram G.—A System for Developing and Maintaining Indices and Updating Cost Figures	4	323
Rao C. R. S.—Postgraduate Chemists in India: Availability and Utilisation	9	1009	Srivastava S. P.—Optimisation of Caustic Soda/Chlorine Plant Operation with special reference to Energy saving	1	49
Rao D. G.—Energy Savings in Urea Production	12	EC-2/1	Stoege Hermann—The Production of Synthesis Gas from Coal and the Further Processing to Urea with special consideration of the Koppers-Totzek Process	12	TECH-2/1
Rao Madhusudhana M.—Materials Handling in Process Industries	2	89	Stassen H. E. M.—Utilization of Producer Gas in Small Diesel Engines	3	198
Roy G. K.—Chemical Engineering Education: The Interaction of Professional Institutions and Academic Education	6	693	Stefanski S. C.—Application of Vacuum Switches in Mercury Cells	5	509
<b>S</b>			Strasser P.—New Developments in Alkaline Chloride Electrolysis Processes (keynote address)	1	9
Sanwal S.—Hydrogen Production by Pressure Swing Adsorption	7	763	Strasser B.—Technology of the HU Type Electrolyzer	1	23

<i>Author-Subject</i>	<i>No.</i>	<i>Page</i>	<i>Author-Subject</i>	<i>No.</i>	<i>Page</i>
<i>Strewe W.—Technology of the HU Type Electrolyzer</i>	1	23	<i>Vishvanathan T. R.—Scope of Small Ammonia Plants based on Ethyl Alcohol .. Volta's Ltd., Bombay—New Concept in Industry Maintenance: High Pressure Water Jetting</i>	12	TECH-6/1
<i>Subbiah P.—Design of Titanium Substrate Insoluble Anodes (TSIA) for Chlor-Alkali Cells in India ..</i>	5	525		2	111
<i>Subramanyam B. S.—Failure of Plant or Equipment to perform as per Design Conditions—Reasons and corrective steps ..</i>	7	739			
<i>Subrahmanyam N.—Indian Cement Industry —An overview ..</i>	8	815			
<i>Subrahmanyam R.—Advances in Caustic Concentration Plants ..</i>	5	557			
<i>Sukumaran K. P.—Biogas Technology—A Renewable Energy Source for the Future ..</i>	12	AS-1/1			
<i>Swaaij W. P. M.—The Design of Co-current Moving Bed Gasifiers Fuelled by Biomass ..</i>	3	171			
<b>T</b>					
<i>Thakral R. P.—Utilisation of Chlorine in a Gas-Based Petrochemicals Complex ..</i>	5	527	<i>Wagle N. G.—Melting Points of Binary Wax Mixtures—Retention of Solvent by Waxes ..</i>	4	345
<i>Thampi K. T.—Perspectives for Eighties ..</i>	1	61	<i>Wagle S. R.—The Project (Narmada Cement Company Ltd.) ..</i>	8	931
<i>Thangappan R.—The Status of Titanium Metal Anodes in India (abstract) ..</i>	5	521	<i>Wanson India Pvt. Ltd.—Design and Significance of Demineralising ..</i>	10	1065
<i>Tielrooy Jack—New Concept Ammonia Process with Higher Efficiency ..</i>	12	DEV-2/1	<i>Warner Fredrick—Risk Analysis and Fertilizer Plant ..</i>	12	S-1/1
<i>Tilak B. D.—Rural Development through Science and Technology ..</i>	4	351	<i>Westterp K. R.—Social and Economical Aspects of the Introduction of Gasification Technology in the Rural Areas in Developing Countries e.g. Tanzania ..</i>	3	185
<i>Toohil John P.—Energy Saving Methods for Producing Distilled Water ..</i>	9	981	<i>Will H.—Plate Type Cells for Brine Electrolysis ..</i>	5	433
<i>Tripathi M. S.—Utilization of Chlorine in a Gas-based Petrochemicals Complex ..</i>	5	527	<i>Wilson Iteke H. K. E.—Regeneration of Technology Imports in Developing Countries through 'Adaptation Research': Experience in the Phosphate Fertilizer Industry ..</i>	3	266
<i>Trivedi R. N.—Air Pollution due to Sulphur Oxide Emissions from Fertilizer Plants and Its Control ..</i>	6	681	<i>Wecen William F. van—New Concept Ammonia process with higher efficiency ..</i>	12	DEV-2/1
<i>Tyagi B. S.—Low Cost Technology of Reducing Phenol in Effluent Water—A Case Study ..</i>	4	343			
<i>Tyagi P. D.—Alcohol Fuel and Its Problems ..</i>	6	661			
<b>U</b>					
<i>Udupa H. V. K.—Design of Titanium Substrate Insoluble Anode (TSIA) for Chlor-Alkali in India ..</i>	5	525	<i>Yadav B. R.—Design of Titanium Substrate Insoluble Anodes (TSIA) for Chlor-Alkali Cells in India ..</i>	5	525
<i>Ukita Hiroshi—The Flemion Membrane Chlor-Alkali Process ..</i>	5	441	<i>Yamamoto Y.—New Innovation in Urea Technology ..</i>	12	DEV-1/1
<i>Uwalla B. T.—Concrete Technology: The State of the Art ..</i>	8	837	<i>Yaroson C. D.—Conversion of Nigerian Cellulose (Forestry and Agricultural Wastes) to Oils and Gases—A Future Potential ..</i>	3	182
<b>V</b>					
<i>Vaidya M. V.—Process Development for Processing Frictional Material from Cashew Nut Shell Liquid ..</i>	3	229	<i>Yayathi G.—SO<sub>2</sub>—Emission Control ..</i>	7	741
<i>Varadarajulu R.—Pass Partition Plate in Shell and Tube Heat Exchanger—A Brief Study ..</i>	9	1005			
<i>Varma Y. K.—On the Role of Potash—A Review ..</i>	7	729			
<i>Velde van de G. M. H.—Sulphur Retention by Limestones Exposed to a Model Atmospheric Fluidized Bed Gas ..</i>	3	273			
<i>Venkataraman C.—Neyveli Thermal Power Station—Features and Prospects ..</i>	2	137			
<i>Venkataraman S.—Integrated Transport System for Fertilizers ..</i>	12	M&C-3/1			
<i>Venkatesan T. D.—SO<sub>2</sub>—Emission Control ..</i>	7	741			
<i>Venkataraman R.—Spiral Plate Heat Exchanger ..</i>	9	989			
<i>Verma K. K.—New Trends in Cooling Water Treatment ..</i>	11	1137			
<i>Vijayendra D. S.—Castable Refractories—Typical Installations in Cement Plants ..</i>	8	857			
<i>Vis J. H.—Mercury Recovery from Waste Streams by the Imac TMR Ion-Exchange Process ..</i>	5	481			
<b>Important</b>					
We are not in a position to supply back issues of Chemical Age of India prior to September 1981.					
Those Interested as much Issue may please contact INSDOC in New Delhi or the University of Microfilms Internation in the U. S. A. — Publisher					

